

What is claimed is;

1. An image scanning system comprising:

an image-capturing device that captures an image of a scan original and outputs image signals;

5 an image processing circuit that executes image processing on the image signals;

an image signal output device that outputs the image signals having undergone the image processing;

10 a calculation device that calculates an estimated length of required time to complete image signal output after a scan instruction with regard to the scan original is issued; and

a calculation result output device that outputs calculation results obtained at the calculation device.

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2. An image scanning system according to claim 1, wherein:

the calculation device also calculates an estimated end time point by adding the estimated length of required time to a current time point; and

20 the calculation result output device outputs at least one of the estimated length of required time and the estimated end time point.

3. An image scanning system according to claim 1, wherein:

25 the image-capturing device executes a preliminary

image-capturing operation and a main image-capturing operation on the scan original; and

the calculation device calculates a total of lengths of required time to execute steps of, at least, the
5 preliminary image-capturing operation, the main image-capturing operation, the image processing and the image signal output.

4. An image scanning system according to claim 3, further
10 comprising:

a storage device in which an actual length of required time is stored in memory in correspondence to each of the steps, the actual length of time being a length of time having been required to actually execute a step, wherein:

15 the calculation device calculates a length of required time to execute each of the steps by averaging n values each representing the actual length of required time for executing a step, which have been stored into the storage device most recently.

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5. An image scanning system according to claim 3, further comprising:

a storage device in which an actual length of required time is stored in memory in correspondence to each of the steps,
25 the actual length of required time being a length of time

having been required to actually execute a step, wherein:

the calculation device calculates a length of required time to execute each of the steps as a value most frequently indicated among values each representing the actual length
5 of required time for executing a step, which have been stored in the storage device.

6. An image scanning system according to claim 4, further comprising:

10 a control device that controls the storage device so as not to store the actual length of required time corresponding to a step among the steps under at least one of following conditions: if the actual length of required time for the step exceeds a predetermined length of time; if the
15 step is canceled while the step is in progress; and if an error occurs during the step.

7. An image scanning system according to claim 5, further comprising:

20 a control device that controls the storage device so as not to store the actual length of required time corresponding to a step among the steps under at least one of following conditions: if the actual length of required time for the step exceeds a predetermined length of time; if the
25 step is canceled while the step is in progress; and if an error

occurs during the step.

8. An image scanning system according to claim 3, wherein:
the calculation result output device also outputs a
5 length of required time to execute each of the steps.

9. An image scanning system according to claim 4, wherein:
the calculation result output device also outputs the
length of required time to execute each of the steps.

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10. An image scanning system according to claim 5, wherein:
the calculation result output device also outputs the
length of required time to execute each of the steps.

15 11. An image scanning system according to claim 1, wherein:
the scan original includes a plurality of frames;
the calculation device calculates the estimated length
of required time to complete output of all the image signals
corresponding to designated frames among the plurality of
20 frames after a scan instruction is issued with regard to the
designated frames; and

the calculation result output device outputs
calculation results obtained by the calculation device.

25 12. An image scanning system according to claim 11,

wherein:

the image-capturing device executes a preliminary image-capturing operation and a main image-capturing operation for each of the designated frames; and

5 the calculation device calculates lengths of time required to execute steps of, at least, the preliminary image-capturing operation, the main image-capturing operation, the image processing and the image signal output for each of the designated frames and also calculates a length
10 of required time to feed the scan original.

13. An image scanning system according to claim 12, further comprising:

a storage device in which an actual length of required
15 time is stored in memory in correspondence to each of the steps and a feed time that has been required to actually feed the scan original is also stored in memory, the actual length of required time being a length of time having been required to actually execute a step, wherein:

20 the calculation device (a) calculates a length of required time to execute each of the steps by averaging n values each representing the actual lengths of required time for executing a step, which have been stored into the storage device most recently and (b) calculates the length of required
25 time to feed the scan original by averaging n values each

representing the feed time, which have been stored into the storage device most recently.

14. An image scanning system according to claim 12, further
5 comprising:

a storage device in which an actual length of required time is stored in memory in correspondence to each of the steps, and a feed time that has been required to actually feed the scan original is also stored in memory, the actual length of
10 required time being a length of time having been required to actually execute a step, wherein:

the calculation device (a) calculates a length of required time to execute each of the steps as a value most frequently indicated among values each representing the
15 actual length of required time for executing a step, that have been stored in the storage device and (b) calculates the length of required time to feed the scan original as a value most frequently indicated among values each representing the feed time, that have been stored in the storage device.

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15. A computer-readable computer program product having an image scan processing control program, the control program comprising:

a start instruction for starting a scan of a scan
25 original;

an image signal processing instruction for executing image processing on image signals obtained by capturing an image of the scan original;

an image signal output instruction for outputting the
5 image signals having undergone the image processing;

a calculate instruction for calculating an estimated length of required time to complete an output of the image signals after the start instruction for starting the scan is issued;

10 a calculation result output instruction for outputting calculation results obtained in response to the calculate instruction.

16. A computer-readable computer program product according
15 to claim 15, wherein:

control is implemented in conformance to the calculation instruction so as to further calculate an estimated end time point obtained by adding the estimated length of required time to a current time point; and

20 control is implemented in conformance to the calculation result output instruction so as to output at least one of the estimated length of required time and the estimated end time point.

25 17. A computer-readable computer program product according

to claim 15, wherein:

the computer-readable computer program product is a recording medium on which the image scan processing control program is recorded.

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18. A computer-readable computer program product according to claim 15, wherein:

the computer-readable computer program product is a carrier wave in which the image scan processing control
10 program is embodied as a data signal.

19. An image scanning method, comprising:

capturing an image of a scan original;

executing image processing on image signals obtained
15 by capturing the image of the scan original;

outputting the image signals having undergone the image processing;

calculating an estimated length of required time to complete an output of the image signals after a scan of the
20 scan original is instructed; and

outputting calculation results with regard to the estimated length of required time.